



MILL MATTERS

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SHOULD YOU TREAT FOR KETOSIS?

BY RANDY MARX



All cows go through a period of negative energy balance after calving, when the cow cannot consume enough dry matter to meet their body maintenance requirements and the increased nutrient demands of the udder. As a result, the cow must mobilize body fat and protein to meet these requirements in order to maintain a high level of milk production. This period of negative energy balance in fresh cows lasts for approximately five weeks after calving.

The common cutoff point for subclinical ketosis is 1.2 mmol/liter of beta hydroxybutyric acid (BHBA) in the blood. Animals above this number are considered subclinically ketotic and are usually treated. There have been numerous testing protocols established and most have proven to be quite effective in identifying those animals with subclinical ketosis, as well as determining the overall incidence of ketosis in fresh cows within a specific herd.

BHBA is produced in the liver as a result of incomplete fat oxidation. The body's stores of fat and protein are mobilized at the same time when the cow is experiencing a period of negative energy balance.

It is impossible for a high-producing dairy cow to eat enough dry matter postcalving to meet the requirements for the udder to produce high volumes of milk. The cow has no choice but to mobilize fat and protein to try and meet this requirement. The higher amounts of BHBA that are produced during the conversion of non-esterified fatty acids (NEFA) to energy are the primary underlying cause of ketosis.

In general, the highest producing cows in any given herd will have higher levels of both NEFA and BHBA postcalving. The dilemma is what to do with animals that are above 1.2 mmol/liter yet appear to be clinically normal, are eating well and do not appear to be suffering from any of the negative effects associated with elevated BHBA levels of fresh cows.

When a ketosis monitoring program is in place, it is important to clinically evaluate these animals that are above the 1.2 mmol/liter cutoff point. Is their head buried in the feed bunk and eating everything they can? Is their udder full of milk? Do they appear well hydrated, healthy and not suffering from low energy levels? Are they producing a high level of milk for being early in lactation? I would propose that having a specific cutoff point for all dairy cows is not feasible, and that physically evaluating these animals should also be part of the ketosis monitoring program to determine if they should actually be treated or not.

It's important we do everything we can to provide the maximum amount of energy to these fresh cows to try and minimize the amount of fat and protein that has to be mobilized. There are multiple energy supplements, bypass fat and glucose precursors (Purina's Rally product), that can be added to the fresh-cow ration to help meet these elevated requirements for high-producing cows. Bypass choline can also be used to help move fat out of the liver and allow it to be used in the mammary gland as an energy source and/or increase the fat content of milk.

Obviously, good feed bunk management, NOT overpopulating the fresh cow pen, high-quality forages, well-balanced diets and excellent palatability of the ration are all important in maximizing nutrient intake and reducing the amount of fat that has to be mobilized by the fresh cow. However, we also have to realize high-producing cows will have to mobilize more fat and protein and as a result their BHBA levels will also be elevated. This does not mean all these animals must be treated just because their BHBA level is above 1.2 mmol/liter. Careful observation of these animals should be part of the ketosis monitoring program to avoid the unnecessary expense and treatment of high-producing animals that are perfectly healthy.

DEHORNING: SEDATION VS. PAIN MANAGEMENT

The dairy industry needs to be proactive about humane animal care like pain management, according to Sandy Stuttgen, DVM, University of Wisconsin-Madison Division of Extension Agriculture Educator. If not, “our on-farm practices will be dictated to us,” she said, in a recent *Dairy Herd Management* article.

Together, Stuttgen and her colleague Sarah Mills-Lloyd, DVM, discussed pain management practices in cattle at the Wisconsin Dairy and Beef Well Being Conference. Their comments were based on recommendations by the American Veterinary Medical Association, National Milk Producers Federation, and American Association of Bovine Practitioners.

“Cattle are a prey species, so they are naturally inclined to mask their pain so as not to look vulnerable,” said Stuttgen. Still, she noted, dehorning pain is real, as evidenced by a depressed demeanor, head tilt, and calves going off feed.

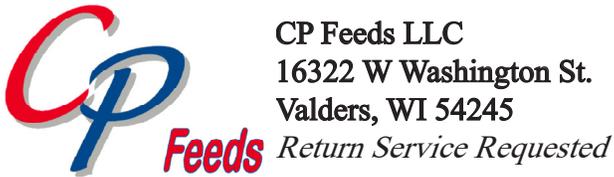
Mills-Lloyd advised disbudding or dehorning calves prior to 6 weeks of age, before the horn bud attaches to the skull bone. Dehorning at older

ages is a more invasive procedure that puts animals at greater risk of blood loss, sinusitis and infection.

She noted the four most common methods of dehorning are with a hot iron; scoop dehorner; caustic paste; or elastic bands. “None of these procedures are pain-free,” advised Mills-Lloyd.

Stuttgen pointed out that while sedation calms the animal and makes the dehorning process easier for handlers, it does not remove pain. “When the sedation wears off, the animal still will feel pain,” she said.

A lidocaine block administered halfway between the eye and the horn can help prevent pain during the procedure. In older animals, lidocaine also should be administered around the base of the horn. Lidocaine relief is short-lived, and pain management should be extended using a non-steroidal anti-inflammatory drug (NSAID). Work with your herd veterinarian on selecting an NSAID, and be sure to follow prescribed withdrawal times. “Dehorning and accompanying pain management should be performed under the direction of your herd veterinarian, and all drugs must be used within a valid Veterinary-Client-Patient Relationship,” advised Stuttgen.



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CREATING A TOP NOTCH HEIFER PROGRAM

The Dairy Doctor's Veterinary Clinic team is hosting a fall meeting focused on modern strategies for managing your heifer inventory. Attendees will:

- Learn why inventory management is critical in today's dairy economy.
- Learn strategies to reduce your heifer inventory.
- Learn the factors that indicate if an animal will be a profitable contributor to your herd.
- Learn how lung ultrasound can be employed to select the right heifers to keep for your herd.

Millhome Supper Club
November 14th, 2019 9:00 A M - 11:00 A M
16524 Lax Chapel Road Kiel WI 53042

To RSVP contact Dairy Doctors by November 7th:
dairydoctors@gmail.com OR 1-920-892-4696